

We Claim:

1. A method for operating a gas turbo group, which gas turbo group includes at least one combustion chamber, wherein the combustion chamber includes at least one catalytic first burner stage and a second, non-catalytic burner stage following the at least one catalytic burner stage in the flow direction, the method comprising:
 - determining a net power output (P_{ACT}) of the gas turbo group;
 - supplying the gas turbo group with a total fuel mass flow (\dot{m}_{FUEL}) of the gas turbo group depending on a control deviation ($P_{SET}-P_{ACT}$) of the net power output;
 - distributing the total fuel mass flow to at least the catalytic burner stage and the non-catalytic burner stage;
 - determining the temperature (T_2) at the outlet from the catalytic burner stage; and
 - regulating, limiting to a set value, limiting to a maximum value, or combinations thereof, the temperature at the outlet from the catalytic burner stage by changing the combustion air mass flow and blocking the fuel supply to the non-catalytic burner stage when the combustion air mass flow is below an achievable maximum.
2. A method according to Claim 1, wherein changing the combustion air mass flow comprises adjusting an adjustable guide row of a compressor of the gas turbo group.
3. A method according to Claim 2, comprising:
 - keeping the adjustable compressor guide row closed when the temperature at the outlet from the catalytic burner stage is below a set value.
4. A method according to Claim 1, comprising:
 - cooling suction air upstream from the compressor in order to increase the combustion air mass flow.

5. A method according to Claim 4, further comprising:
injecting liquid droplets into the suction air for cooling.
6. A method according to Claim 1, further comprising:
operating a non-catalytic preburner stage upstream from the catalytic burner stage.
7. A method according to Claim 6, further comprising:
determining the temperature (T_1) at the inlet into the catalytic stage; and
regulating compliance with a minimum value of the temperature at the inlet into the catalytic stage by adjusting the fuel mass flow \dot{m}_p to the preburner stage.
8. A method according to Claim 6, comprising:
operating the preburner stage in a diffusion combustion mode.
9. A method according to Claim 1, further comprising:
in the presence of a maximum combustion air mass flow , supplying a fuel mass flow (\dot{m}_{SEV}) additionally necessary for regulating the net power output to a combustion chamber or burner stage located downstream from the catalytic burner stage.
10. A method according to Claim 1, further comprising:
operating the second non-catalytic burner stage as a self-igniting combustion chamber.
11. A method according to Claim 1, wherein the regulating value of the temperature at the outlet from the catalytic stage corresponds essentially to the maximum permissible temperature of the catalyst material.

12. A method according to Claim 1, wherein the regulating value of the temperature at the outlet from the catalytic stage is higher than the temperature necessary for a spontaneous self-ignition of the fuel in the second non-catalytic burner stage.
13. A method according to Claim 9, wherein the presence of a maximum combustion air mass flow comprises a fully opened adjustable guide row.
14. A method according to Claim 9, wherein a combustion chamber or burner stage comprises the non-catalytic burner stage.